

CLAIMS

- 1 1. An upwardly acting sectional door comprising, a plurality of panels, body portions  
2 of said panels constructed of a flexible polymeric material and having a front  
3 surface, a cladding covering said front surface of said body portions and having  
4 hooks at the upper and lower edges thereof, a hinge member at an edge of said  
5 body portion operatively engaging said hooks of adjacent of said panels to provide  
6 relative pivotal motion between said adjacent of said panels.
  
- 1 2. A sectional door according to claim 1, wherein said hinge member is made of said  
2 flexible polymeric material.
  
- 1 3. A sectional door according to claim 1, further comprising, stiles covering the ends  
2 of said body portions and said cladding.
  
- 1 4. A sectional door according to claim 1, wherein said hooks interengage for relative  
2 pivotal motion of said panels.
  
- 1 5. A sectional door according to claim 4, wherein said hinge member encompasses  
2 said hooks when interengaged for relative pivotal motion of said panels.
  
- 1 6. A sectional door according to claim 5, wherein said hooks of adjacent of said  
2 panels remain in sufficiently close proximity during pivotal motion of said panels  
3 such as to provide a pinch-resistant configuration.
  
- 1 7. An upwardly acting sectional door comprising, a plurality of panels, facers of said  
2 panels defining a front surface of the door and having pivotal closure assemblies  
3 at the upper and lower edges thereof, end stiles at the ends of said panels adapted  
4 to receive the ends of said facers, and hinge assemblies located at said end stiles  
5 to provide relative pivotal motion between adjacent of said panels.

- 1 8. A sectional door according to claim 7 further comprising, coupler elements  
2 operatively interrelated with said pivotal closure assemblies at one or more  
3 locations on said facers intermediate said end stiles.
  
- 1 9. A sectional door according to claim 8, wherein said hinge assemblies define first  
2 pivot axes between adjacent of said panels and said pivotal closure assemblies  
3 define second pivot axes, said coupler elements operating to maintain said second  
4 pivot axes coincident with said first pivot axes.
  
- 1 10. A sectional door according to claim 8, wherein said coupler elements are  
2 deformable clips encompassing said pivotal closure assemblies.
  
- 1 11. A sectional door according to claim 10, wherein said clips are constructed of a  
2 temporarily deformable material.
  
- 1 12. A sectional door according to claim 10, wherein said pivotal closure assemblies  
2 are hooks at the upper and lower edges of said panels and said clips have a double  
3 loop configuration enclosing said hooks of adjacent of said panels.
  
- 1 13. A sectional door according to claim 12, wherein said hooks of adjacent of said  
2 panels remain in sufficiently close proximity during pivotal motion of said panels  
3 such as to provide a pinch-resistant configuration.
  
- 1 14. A sectional door according to claim 12, wherein said hooks interengage for  
2 relative pivotal motion of said panels.
  
- 1 15. A sectional door according to claim 7 further comprising, an insulation layer  
2 provided behind said front surface of said facer.

- 1 16. A sectional door according to claim 15, wherein said insulation layer has a foam
- 2 material and a backer therefor.
- 1 17. A sectional door according to claim 15, wherein said insulation layer is solely
- 2 mechanically retained in said panels.
- 1 18. A sectional door according to claim 17, wherein said insulation layer has upper
- 2 and lower edges which are confined and retained by said pivotal closure
- 3 assemblies and has end edges which are confined and retained by said end stiles.
- 1 19. A sectional door according to claim 18, wherein said end stiles have a rear flange
- 2 with an in-turned flap which engages said end edges of said insulation layer.
- 1 20. A sectional door according to claim 7, wherein said end stiles are generally U-
- 2 shaped members adapted to receive said front surface and said pivotal closure
- 3 assemblies of said facers.
- 1 21. A sectional door according to claim 20, wherein said stiles have a front flange, a
- 2 rear flange, and a planar end spacing joining said front flange and said rear flange.
- 1 22. A sectional door according to claim 21, wherein said rear flange has an in-turned
- 2 flap directed toward said front flange which operates as a strengthening member
- 3 for said panels.
- 1 23. A sectional door according to claim 7, wherein said hinge assemblies include an
- 2 upper hinge pin receiver formed in said end stiles, a lower hinge pin receiver
- 3 formed in said end stiles, and roller assemblies connecting an upper hinge pin
- 4 receiver of one of said plurality of panels with a lower hinge pin receiver of an
- 5 adjacent of said plurality of panels.

- 1 24. A sectional door according to claim 23, wherein said end stile has a planar end and  
2 said lower hinge pin receiver is a bore in said planar end of said end stile.
- 1 25. A sectional door according to claim 24, wherein said end stiles have a flange, said  
2 upper hinge pin receiver is a cylindrical sleeve projecting from said flange of said  
3 end stiles.
- 1 26. A sectional door according to claim 25, wherein said roller assemblies have a  
2 roller shaft insertable in said bore and said cylindrical sleeve and serving as a pivot  
3 axis for relative pivotal motion between adjacent of said panels.
- 1 27. A sectional door according to claim 26, wherein said roller shaft has spaced  
2 annular ribs limiting axial movement of said roller shaft relative to said bore and  
3 said cylindrical sleeve.
- 1 28. A sectional door according to claim 27, wherein said flange of said end stile has  
2 an in-turned arcuate flange centered about said bore and engaging said pivotal  
3 closure assemblies and maintaining said pivotal closure assembly pivotally  
4 positioned in engagement with said cylindrical sleeve.
- 1 29. A combined roller assembly and cable-securing device for an upwardly acting  
2 sectional door comprising, a door panel, an end stile on said door panel having an  
3 end surface, an aperture in said end surface of said end stile, a roller assembly  
4 having a roller shaft inserted in said aperture, a cable bracket having a collar  
5 adapted for securing a cable for operating the door and receiving said shaft of said  
6 roller assembly.
- 1 30. A roller and cable-securing device according to claim 29, wherein said collar has  
2 an internal diameter sufficiently larger than the diameter of said roller shaft such  
3 as to remain spaced therefrom during operation of the door.

- 1 31. A roller and cable-securing device according to claim 30, wherein said collar has
- 2 a groove adapted to receive the cable for operating the door.
  
- 1 32. A roller and cable-securing device according to claim 30, wherein said cable
- 2 bracket has a projection attached to said collar which is fastened to said end stile.
  
- 1 33. An upwardly acting sectional pan door comprising, a plurality of panels, facers of
- 2 said panels defining a front surface of the door and having cooperatively engaging
- 3 closures at the upper and lower edges thereof, stiles at the ends of said facers
- 4 receiving and attached to said facers, and hinge assemblies located at said end
- 5 stiles to provide relative pivotal motion between said stiles and said closures of
- 6 adjacent of said panels.
  
- 1 34. A pan door according to claim 33, wherein said cooperative engaging closures are
- 2 generally hook-shaped members.
  
- 1 35. A pan door according to claim 34 further comprising, coupler elements supporting
- 2 said cooperative engaging closures at a location intermediate said end stiles.
  
- 1 36. A pan door according to claim 35, wherein said coupler elements have a double
- 2 loop encompassing said hook-shaped members to stabilize said closures and said
- panels during assembly and operation.